FIG.1

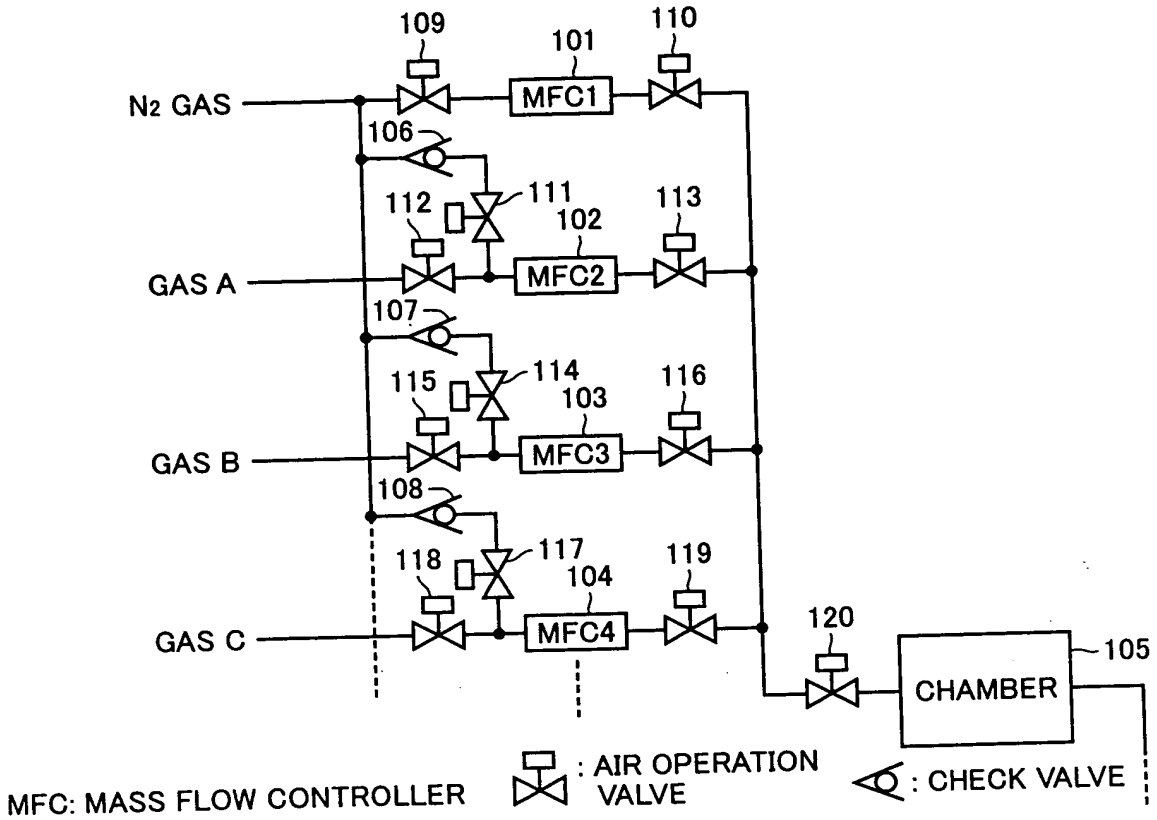

109
101
110
N2 GAS
MFC1
106
111
112
102
113
GAS A
MFC2
107
114
115
103
116
GAS B
MFC3
108
117
118
104
119
GAS C
MFC4
120
105
CHAMBER
: AIR OPERATION VALVE
: CHECK VALVE
MFC: MASS FLOW CONTROLLER

FIG.2

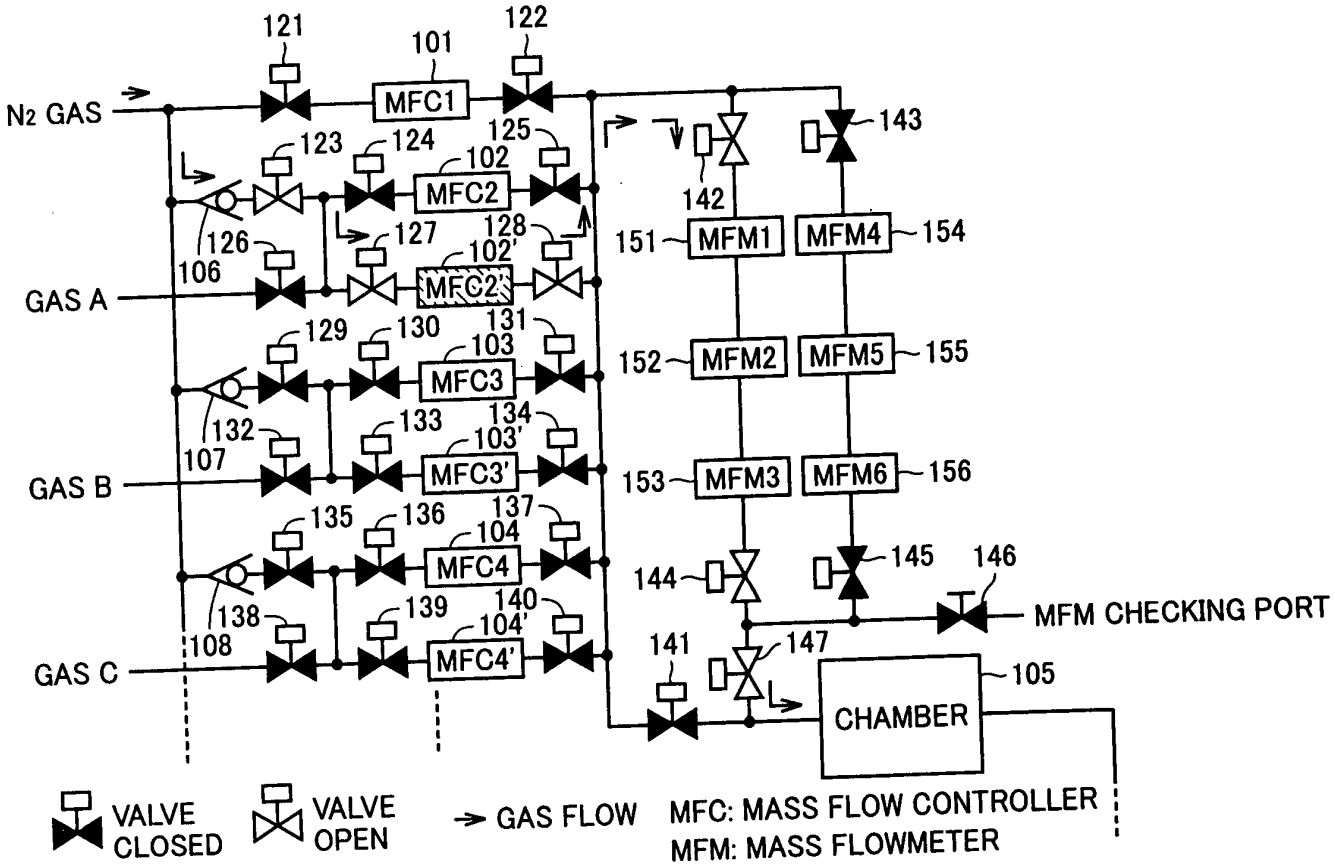

121
101
122
N2 GAS
MFC1
123
124
125
102
MFC2
142
143
151
MFM1
MFM4
154
126
106
127
128
102'
MFC2'
GAS A
129
130
131
103
MFC3
152
MFM2
MFM5
155
132
107
133
134
103'
MFC3'
GAS B
153
MFM3
MFM6
156
135
136
137
104
MFC4
144
145
146
MFM CHECKING PORT
138
108
139
140
104'
MFC4'
GAS C
141
147
105
CHAMBER
VALVE CLOSED
VALVE OPEN
GAS FLOW
MFC: MASS FLOW CONTROLLER
MFM: MASS FLOWMETER

FIG.3

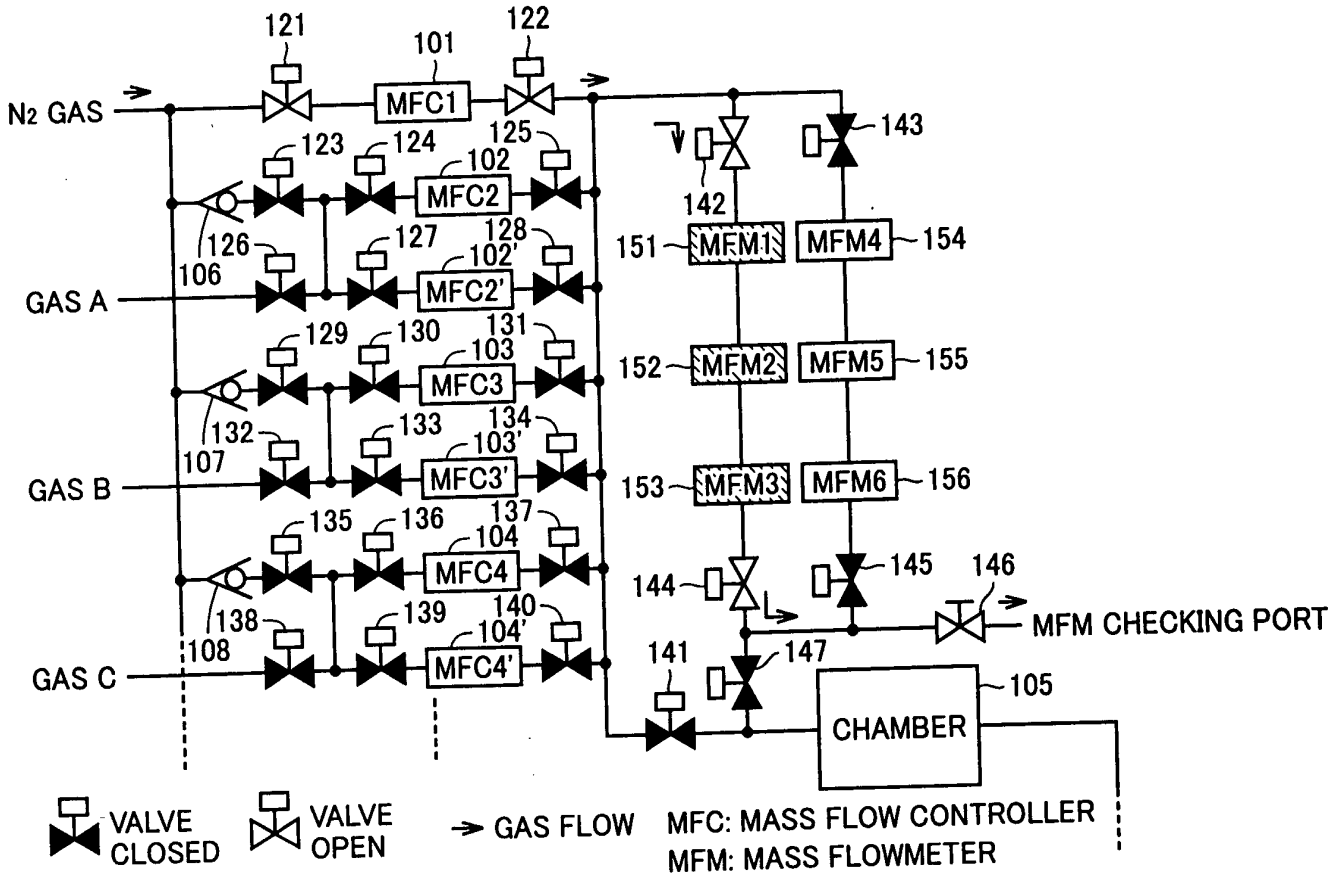

N2 GAS
GAS A
GAS B
GAS C
MFC1
MFC2
MFC2'
MFC3
MFC3'
MFC4
MFC4'
MFM1
MFM2
MFM3
MFM4
MFM5
MFM6
CHAMBER
MFM CHECKING PORT
VALVE CLOSED
VALVE OPEN
GAS FLOW
MFC: MASS FLOW CONTROLLER
MFM: MASS FLOWMETER

FIG.4

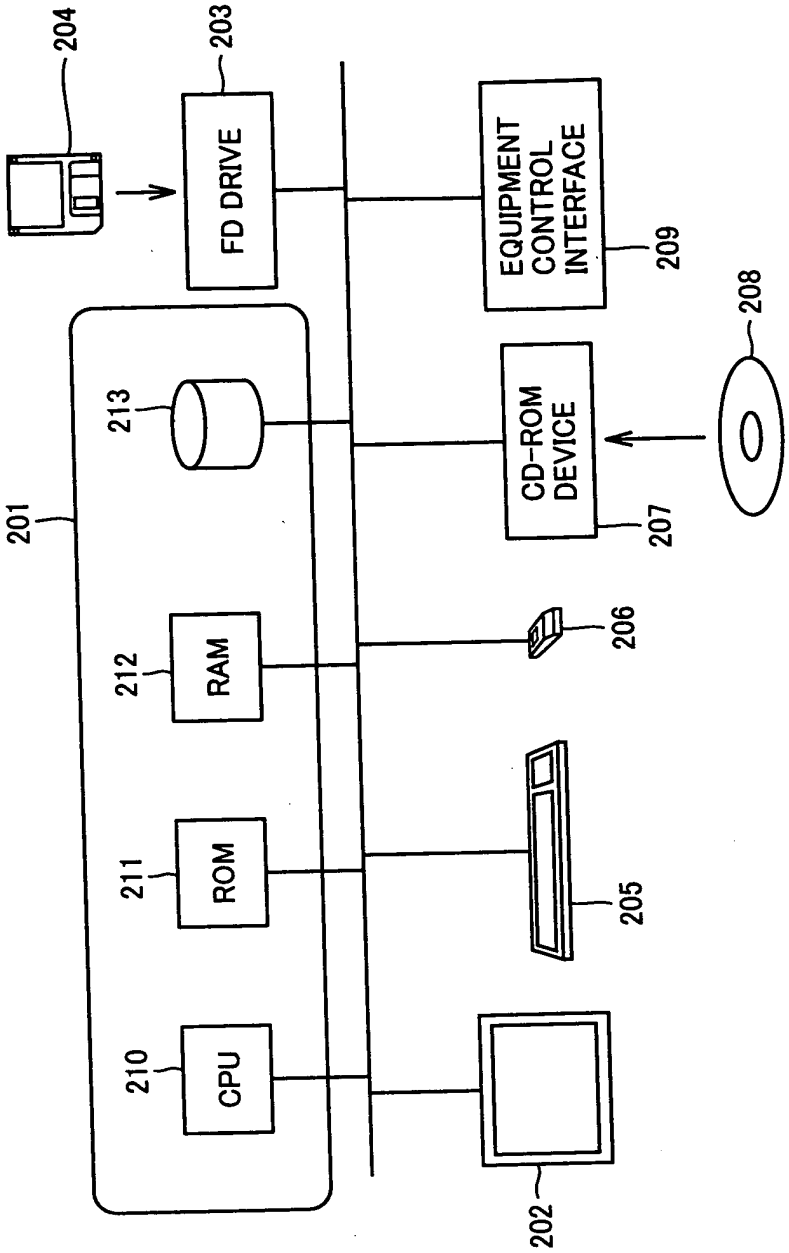

204
203
FD DRIVE
EQUIPMENT CONTROL INTERFACE
209
208
213
CD-ROM DEVICE
207
201
206
212
RAM
211
ROM
205
210
CPU
202

FIG.5

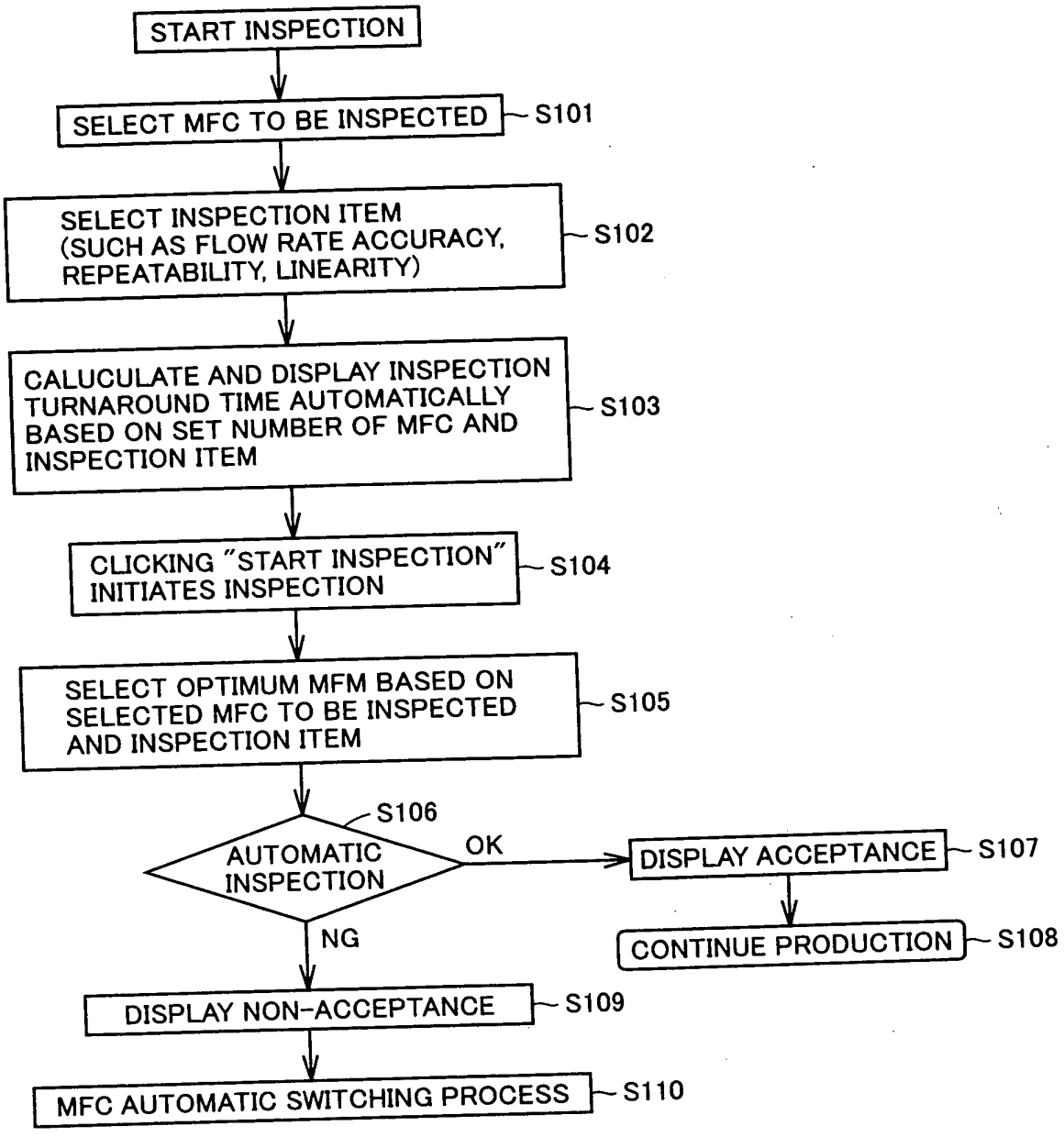

START INSPECTION
SELECT MFC TO BE INSPECTED
S101
SELECT INSPECTION ITEM (SUCH AS FLOW RATE ACCURACY, REPEATABILITY, LINEARITY)
S102
CALUCULATE AND DISPLAY INSPECTION TURNAROUND TIME AUTOMATICALLY BASED ON SET NUMBER OF MFC AND INSPECTION ITEM
S103
CLICKING "START INSPECTION" INITIATES INSPECTION
S104
SELECT OPTIMUM MFM BASED ON SELECTED MFC TO BE INSPECTED AND INSPECTION ITEM
S105
S106
AUTOMATIC INSPECTION
OK
DISPLAY ACCEPTANCE
S107
CONTINUE PRODUCTION
S108
NG
DISPLAY NON-ACCEPTANCE
S109
MFC AUTOMATIC SWITCHING PROCESS
S110

FIG.6

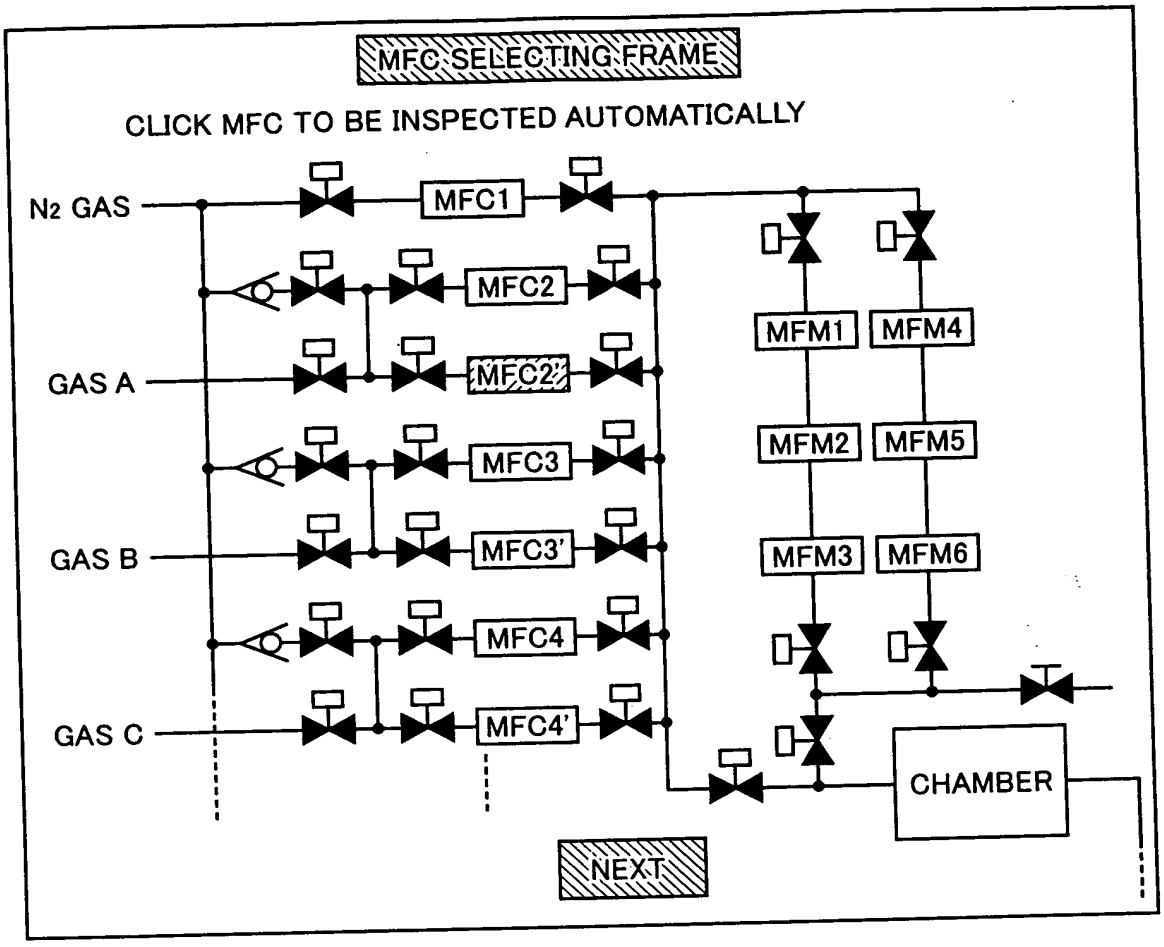

MFC SELECTING FRAME
CLICK MFC TO BE INSPECTED AUTOMATICALLY
N2 GAS
GAS A
GAS B
GAS C
MFC1
MFC2
MFC2'
MFC3
MFC3'
MFC4
MFC4'
MFM1
MFM4
MFM2
MFM5
MFM3
MFM6
CHAMBER
NEXT

FIG.7

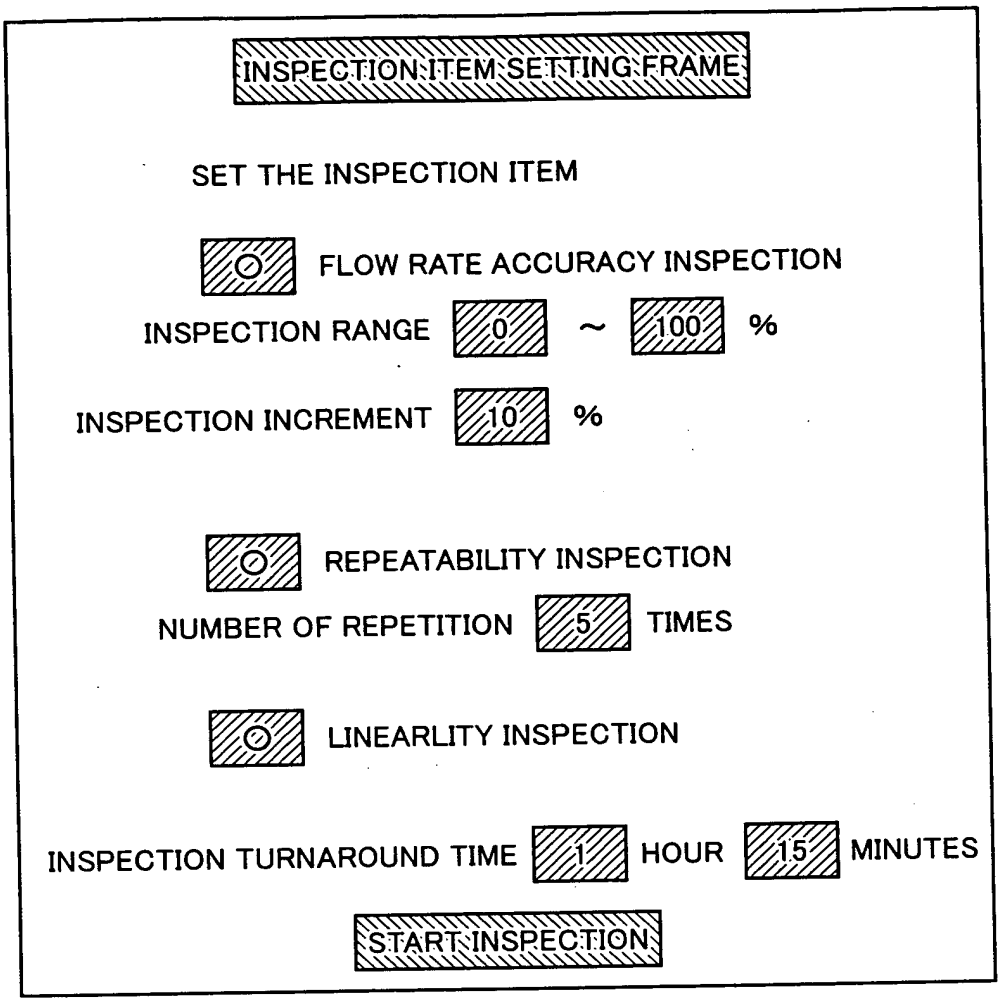

INSPECTION ITEM SETTING FRAME
SET THE INSPECTION ITEM
FLOW RATE ACCURACY INSPECTION
INSPECTION RANGE
0
~
100
%
INSPECTION INCREMENT
10
%
REPEATABILITY INSPECTION
NUMBER OF REPETITION
5
TIMES
LINEARLITY INSPECTION
INSPECTION TURNAROUND TIME
1
HOUR
15
MINUTES
START INSPECTION

FIG.8

INSPECTION RESULT INDICATION FRAME

1. FLOW RATE ACCURACY INSPECTION RESULT

SET VALUE	MEASURED VALUE	DETERMINATION CRITERION	ERROR	DETERMINATION
0%	0.2%	± 3% OR SMALLER	0.2%	ACCEPTABLE
10%	10.1%		1.0%	ACCEPTABLE
20%	20.1%		0.5%	ACCEPTABLE
30%	30.4%		1.3%	ACCEPTABLE
40%	39.9%		-0.3%	ACCEPTABLE
50%	50.7%		1.4%	ACCEPTABLE
60%	59.9%		-0.2%	ACCEPTABLE
70%	70.6%		0.9%	ACCEPTABLE
80%	80.3%		0.4%	ACCEPTABLE
90%	90.5%		0.6%	ACCEPTABLE
100%	99.8%		-0.2%	ACCEPTABLE

2. REPEATABILITY INSPECTION RESULT

SET VALUE	AVERAGE OF MEASURED VALUES	DETERMINATION CRITERION	STANDARD DEVIATION	DETERMINATION
0%	0.2%	± 0.33% OR SMALLER	0.03%	ACCEPTABLE
10%	10.1%		0.04%	ACCEPTABLE
20%	20.1%		0.06%	ACCEPTABLE
30%	30.4%		0.04%	ACCEPTABLE
40%	39.9%		0.02%	ACCEPTABLE
50%	50.7%		0.05%	ACCEPTABLE
60%	59.9%		0.10%	ACCEPTABLE
70%	70.6%		0.03%	ACCEPTABLE
80%	80.3%		0.04%	ACCEPTABLE
90%	90.5%		0.05%	ACCEPTABLE
100%	99.8%		0.06%	ACCEPTABLE

3. LINEARITY INSPECTION RESULT

$Y=aX+b$

$=0.9994X+0.0003$

DETERMINATION CRITERION: $a>0.99$, $b<0.01$

DETERMINATION: ACCEPTABLE

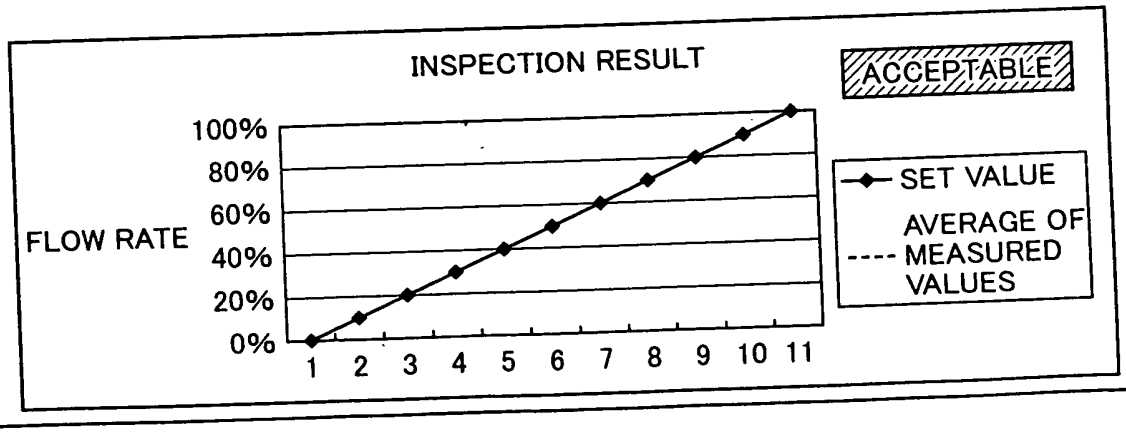


FIG.9

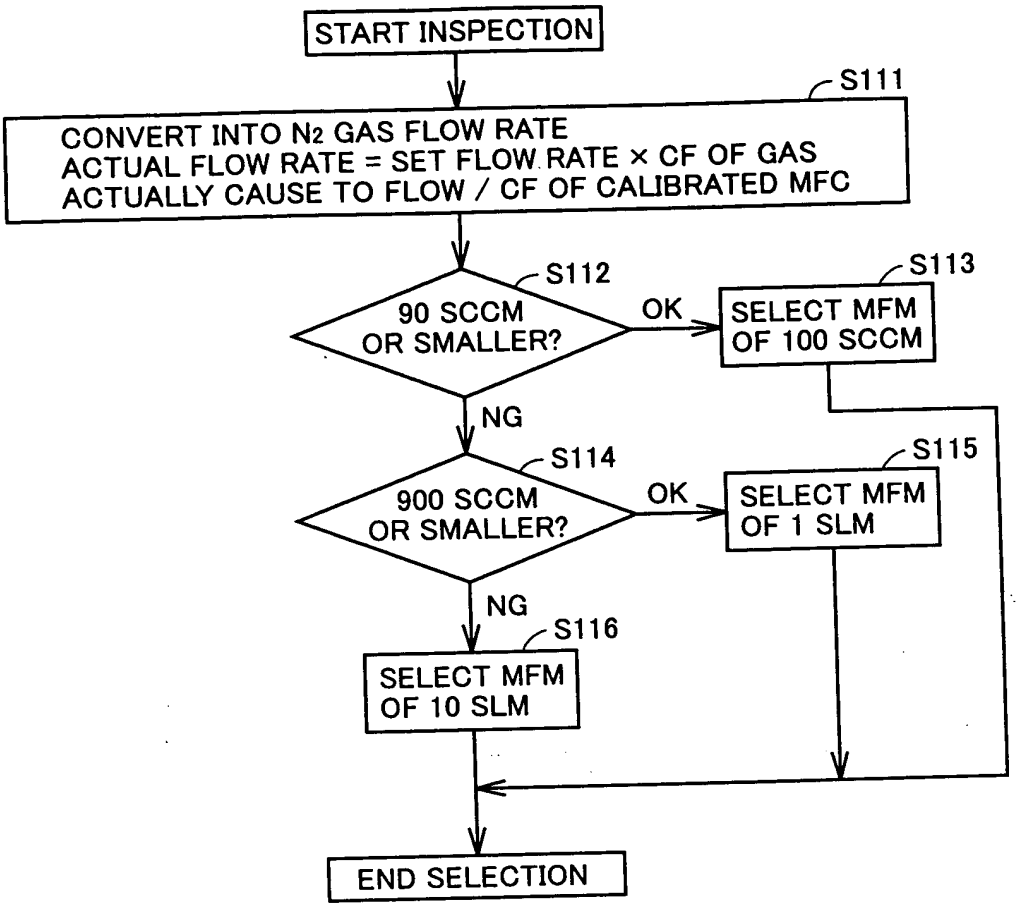

START INSPECTION
S111
CONVERT INTO N2 GAS FLOW RATE
ACTUAL FLOW RATE = SET FLOW RATE × CF OF GAS
ACTUALLY CAUSE TO FLOW / CF OF CALIBRATED MFC
S112
90 SCCM OR SMALLER?
OK
S113
SELECT MFM OF 100 SCCM
NG
S114
900 SCCM OR SMALLER?
OK
S115
SELECT MFM OF 1 SLM
NG
S116
SELECT MFM OF 10 SLM
END SELECTION

FIG.10

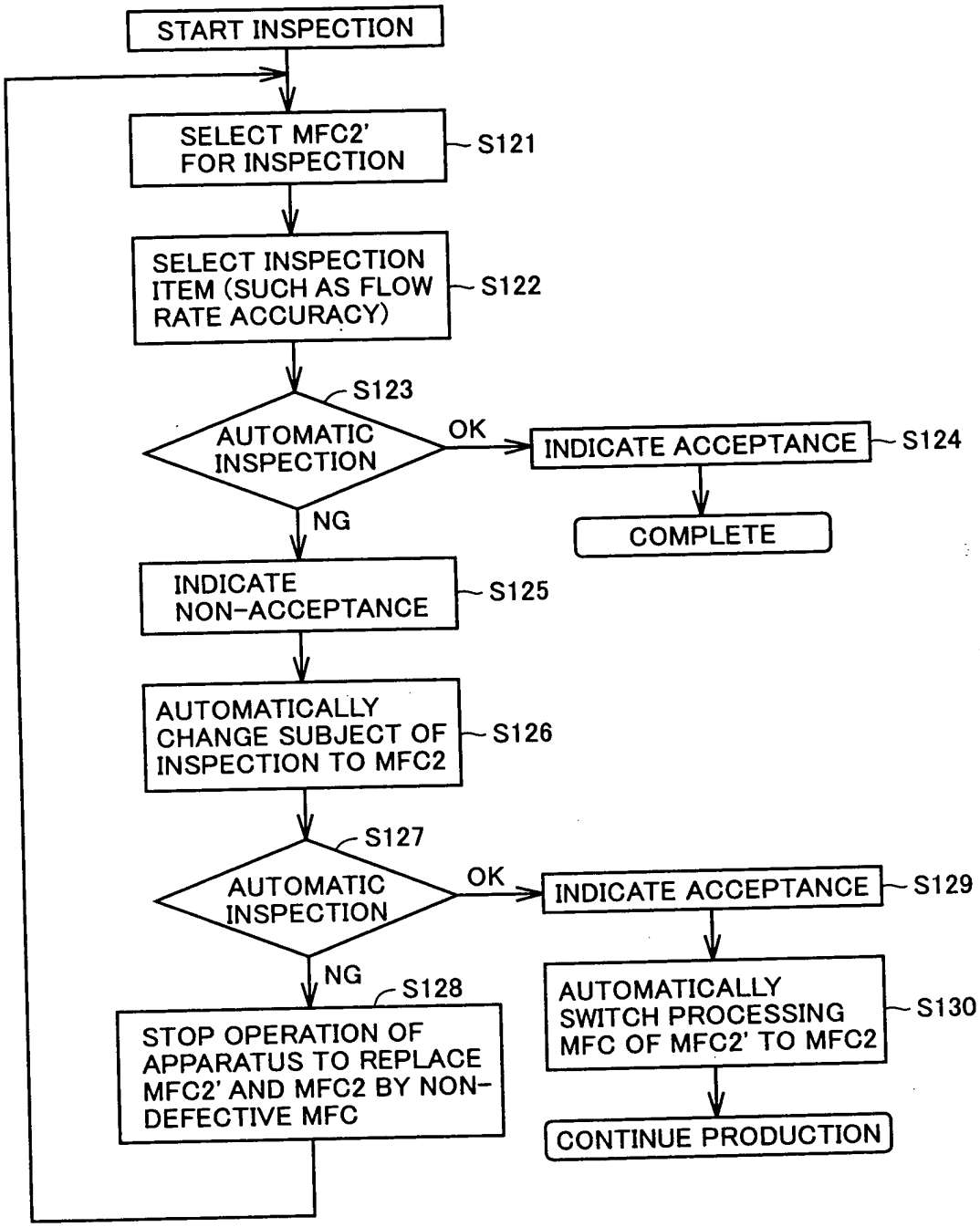

START INSPECTION
SELECT MFC2' FOR INSPECTION
S121
SELECT INSPECTION ITEM (SUCH AS FLOW RATE ACCURACY)
S122
S123
AUTOMATIC INSPECTION
OK
INDICATE ACCEPTANCE
S124
COMPLETE
NG
INDICATE NON-ACCEPTANCE
S125
AUTOMATICALLY CHANGE SUBJECT OF INSPECTION TO MFC2
S126
S127
AUTOMATIC INSPECTION
OK
INDICATE ACCEPTANCE
S129
NG
S128
STOP OPERATION OF APPARATUS TO REPLACE MFC2' AND MFC2 BY NON-DEFECTIVE MFC
AUTOMATICALLY SWITCH PROCESSING MFC OF MFC2' TO MFC2
S130
CONTINUE PRODUCTION

FIG.11

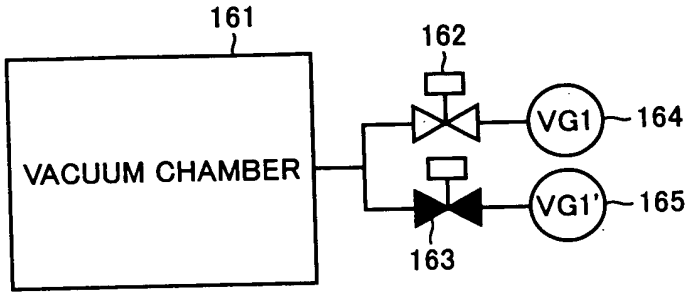

161
VACUUM CHAMBER
162
VG1
164
VG1'
165
163

FIG.12

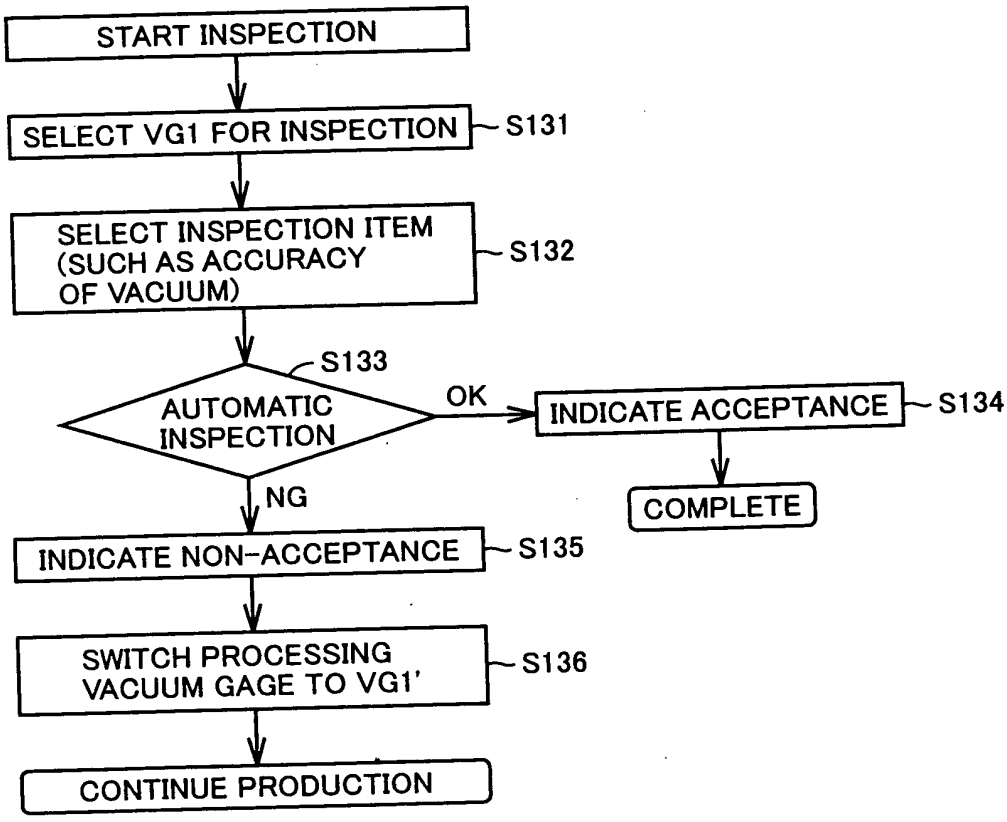

START INSPECTION
SELECT VG1 FOR INSPECTION
S131
SELECT INSPECTION ITEM (SUCH AS ACCURACY OF VACUUM)
S132
S133
AUTOMATIC INSPECTION
OK
INDICATE ACCEPTANCE
S134
COMPLETE
NG
INDICATE NON-ACCEPTANCE
S135
SWITCH PROCESSING VACUUM GAGE TO VG1'
S136
CONTINUE PRODUCTION

FIG.13

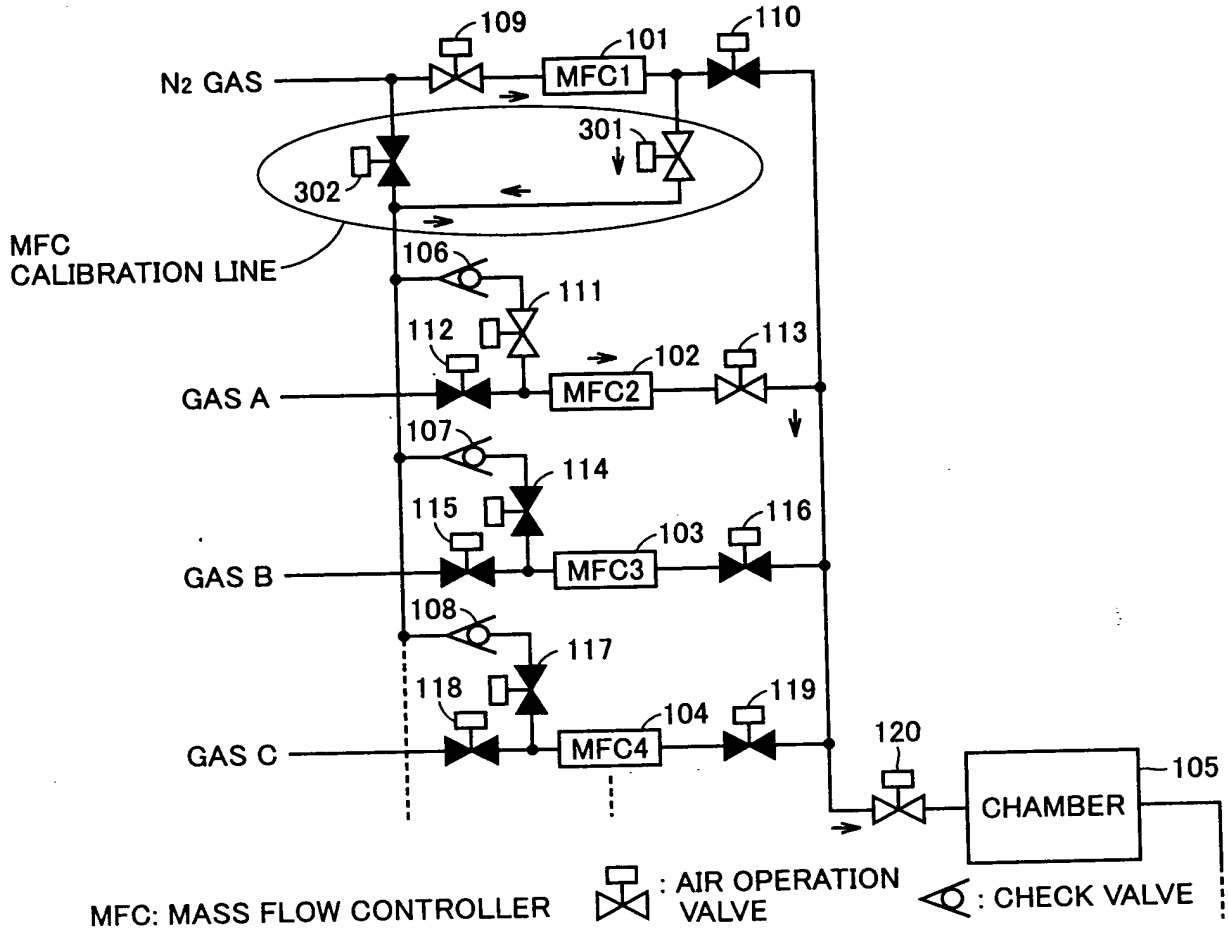

109
101
110
N2 GAS
MFC1
301
302
MFC
CALIBRATION LINE
106
111
112
113
102
GAS A
MFC2
107
114
115
116
103
GAS B
MFC3
108
117
118
119
104
GAS C
MFC4
120
105
CHAMBER
MFC: MASS FLOW CONTROLLER
: AIR OPERATION VALVE
: CHECK VALVE

FIG.14A

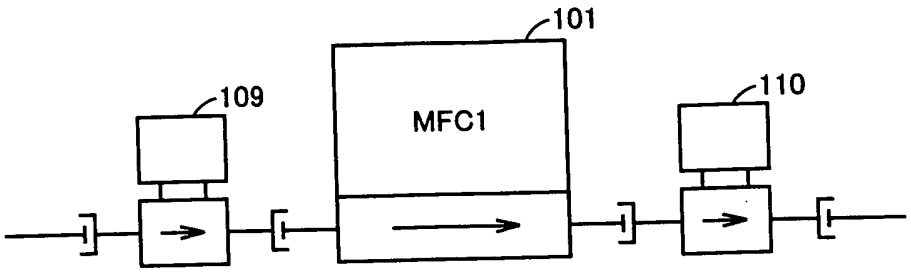


FIG.14B

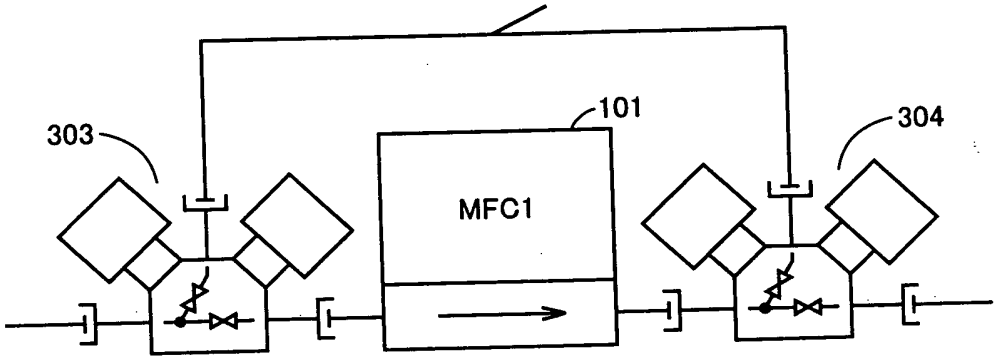
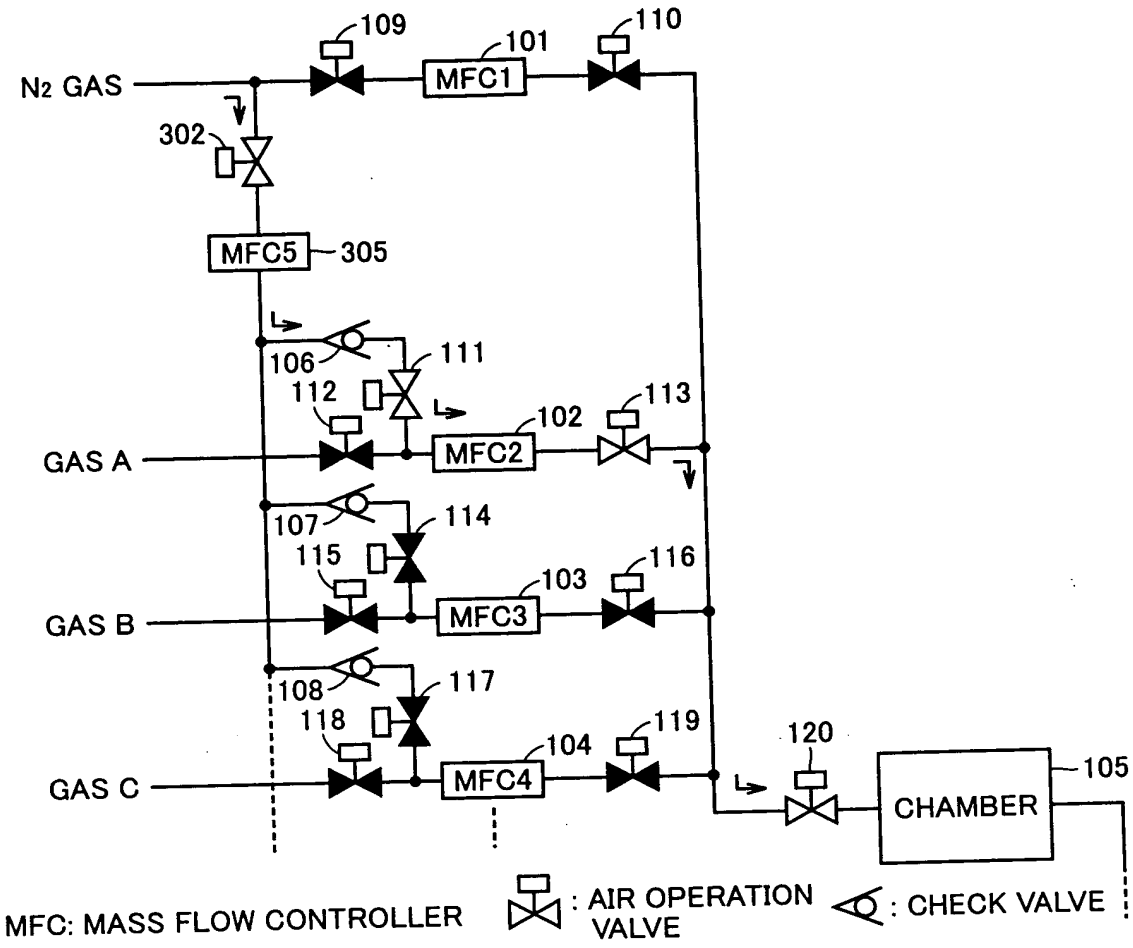


FIG.15


N2 GAS
GAS A
GAS B
GAS C
MFC1
MFC2
MFC3
MFC4
MFC5
302
305
101
102
103
104
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
105
CHAMBER
MFC: MASS FLOW CONTROLLER
: AIR OPERATION VALVE
: CHECK VALVE